Kesesuaian penilaian nodul tiroid antara computer aided diagnosis dengan kriteria ACR TI-RADS berdasarkan gambaran USG di RSUPN Cipto Mangunkusumo = Appropriate assessment of tiroid nodules between computer aided diagnosis and ACR TI-RADS criteria based on ultrasound images at Cipto Mangunkusumo General Hospital

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Abstrak

Latar belakang: Ultrasonografi (USG) merupakan modalitas utama untuk evaluasi nodul tiroid. Dependensi operator yang tinggi membuat nilai diagnostik USG relatif rendah terutama bagi operator yang minim pengalaman. Computer Aided Diagnosis (CAD) merupakan sistem terkomputerisasi yang mampu melakukan penilaian USG nodul tiroid dengan objektif, konsisten dan diharapkan dapat meningkatkan akurasi diagnostik USG dalam penilaian nodul tiroid. AmCAD adalah aplikasi CAD untuk penilaian nodul tiroid yang sudah tersedia saat ini, namun belum ada data mengenai penggunaan AmCAD di Indonesia, sehingga diperlukan penelitian untuk melihat kesesuaian penilaiannya dengan kriteria penilaian yang selama ini sudah digunakan Tujuan: Menilai kesesuaian AmCAD dan ACR TI-RADS dalam menentukan nodul jinak dan ganas tiroid berdasarkan gambaran USG. Metode: Data sekunder hasil USG pasien dengan nodul tiroid di Departemen Radiologi RSCM dari tahun 2015-2019 dilakukan penilaian oleh peneliti sesuai kriteria ACR TI-RADS, kemudian gambar yang sama dilakukan penilaian terpisah menggunakan aplikasi AmCAD. Kesesuaian AmCAD dan ACR TI-RADS dalam menentukan nodul jinak dan ganas tiroid dianalisis. Hasil: Sampel penelitian ini sebanyak 85 nodul tiroid (jenis kelamin terbanyak wanita, rerata usia 49,8 ± 13,9 tahun). Hasil analisis menunjukkan AmCAD dan ACR TI-RADS memiliki kesesuaian yang baik dalam membedakan nodul jinak dan ganas tiroid berdasarkan gambaran USG dengan nilai konkordans 87,1 % , Kappa Cohen R 0,570 (p 0,001). Kesimpulan: AmCAD dan kriteria ACR TI-RADS memiliki kesesuaian yang baik dalam melakukan penilaian nodul tiroid.

.....Background: Ultrasonography (USG) is the main modality for evaluation of thyroid nodules. High operator dependency makes the diagnostic value of ultrasound relatively low especially for operators who lack experience. Computer Aided Diagnosis (CAD) is a computerized system that is able to carry out ultrasound assessment of thyroid nodules objectively, consistently and is expected to improve the diagnostic accuracy of ultrasound in the assessment of thyroid nodules. AmCAD is a CAD application for the assessment of thyroid nodules that are currently available, but there is no data regarding the use of AmCAD in Indonesia, so research is needed to see the appraisal of the assessment with the assessment criteria that have been used so far. Objective: Assess the suitability of AmCAD and ACR TI-RADS in determine benign and malignant thyroid nodules based on ultrasound images. Methods: Secondary data on the ultrasound results of patients with thyroid nodules in the Department of Radiology RSCM from 2015-2019 were assessed by researchers according to the ACR TI-RADS criteria, then the same image was assessed separately using the AmCAD application. The suitability of AmCAD and ACR TI-RADS in determining benign and malignant thyroid nodules was analyzed. Results: The sample of this study was 85 thyroid nodules (most female sex, mean age 49.8 ± 13.9 years). The results of the analysis showed that AmCAD and ACR TI-RADS were well-suited in distinguishing benign and malignant thyroid nodules based on

ultrasound images with concordance values of 87.1%, Kappa Cohen R 0.570 (p 0.001). Conclusion: AmCAD and ACR TI-RADS criteria are well-matched in assessing thyroid nodules.